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ABSTRACT

This paper reports a technique for classroom observation of children's activities considered relevant to the acquisition of reading. It is part of a larger study conducted by the University of Bristol called the "Children Learning to Read" Project, an attempt to study the learning experiences of individual children as they occur in a variety of schools. The method is to explore the interaction between oral language ability, relevant preschool experience and initial motivation with respect to reading; range and types of texts and insturctional materials; and relative emphasis on timing in strategies of teachers concerned in the initial stages of reading instruction. The sample is 20 infant-school children. Observations take the form of a running record of an individual child's activities during a complete morning once every month over a two-year period. The record is designed to yield an account of the different activities engaged in and the amount of time spent on each; and a detailed description of significant aspects of these activities. A coding system is developed for recording relevant information. Results are in the form of prose records and fully-coded time distribution records. Appendixed is a portion of one observation to illustrate the precise form. (Author/MS)

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OBSERVING CHILDREN LEARNING TO READ

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A large amount of literature exists on the teaching of reading and writing, and there are also numerous experimental studies, most of which have utilised the traditional research design of pre-test, experimental treatment, post-test, to investigate what are often quite limited aspects of reading behaviour. Indeed, Reid (1973) complains that the variety and quantity of such studies has actually increased the difficulty of formulating a coherent account of the processes involved in fluent, skilled reading and of the acquisition of these skills, because, in so many cases, the researchers have taken a restricted, product-oriented, view of reading, treating it as an isolated activity and ignoring both its relationships with other types of language behaviour and also the particular cultural and social contexts in which it is learned.

Recent theories of the reading process, on the other hand, (Goodman, 1967; Gibson, 1969; Kolers, 1970; Smith, 1971), which, whilst still recognising the visual-perceptual aspects of the task, have placed more emphasis on reading as a language skill, have shown that the skilled reader draws on many sources of information in reconstructing a message from the printed text. Firstly, from his knowledge of the world, he derives expectations about what sorts of messages are probable in the context; secondly, from his previous experience of using language, he forms expectations about their internal linguistic structure in terms of lexical collocation, syntactic structure and sequential probability of graphemes; and, thirdly, he processes the visual information presented by the text, comparing it with his own expectations, in order to achieve a match. These theories stress the essential similarity of reading and listening, in both of which activities, the task of the receiver is to construct a message by making use of all the available cues to predict, sample, check and confirm the meaning judged to have been intended by the sender. However, they also seem to imply that the only difference between

them lies in the different sensory modalities employed, and that what the beginning reader chiefly has to learn is the correspondence between the two systems of representation.

But spoken and written language clearly differ in other respects as well, and these differences may require a child, who has mastered the systems of spoken language, to spend quite a period of time being initiated into the activity of reading. Some children, for example, may lack an understanding of the purpose of reading and thus be unmotivated to engage in this new activity, whilst for all children there are a number of skills and conventions to be mastered that are specific to the written form of language. Therefore ,although a child's skill in oral language activities can be expected to contribute to his success in learning to read, it is possible that, in the early stages at least, this contribution is overshadowed by the difficulties experienced in coming to terms with aspects of the activity of reading that are unrelated to his skills as a competent speaker and listener. As Clay points out:

> "a child may have developed good visual perception for forms and shapes and yet fail to learn to read because he thinks the task depends on visual memory for particular letters or forms and does not appreciate that his power to produce language has anything to do with it. Similarly a child with good language skills may be unsuccessful in applying these to reading because he does not pay the visual cues sufficient attention." (Clay, 1972, p. 6)

It is also likely that, in the ease or difficulty with which the child passes through the initial stages, the individual circumstances of his first encounters with the printed word, both in the pre-school environment of the home and in the more formal context of the classroom, will have a significant part to play, although this question has, as yet, received little detailed investigation.

Learning to read, we believe, therefore, should be seen in terms of an interaction between a wide variety of skills, strategies and experiences, and in order to understand this interaction, research methodology should be enlarged beyond the constraints of the pre- and post-test design, which inevitably ignores some of the most significant aspects of the learning processes involved.

An important beginning to such studies of process has been made in a number of investigations which have focussed on the analysis of errors (Goodman, 1967; Clay, 1969; Biemiller, 1970 and Weber, 1970). For the errors that beginning readers make, and, as their ability develops, their self-corrections, provide an important source of evidence about the strategies that they are employing. For example, Clay (op.cit.), on the basis of regular observations of a sample of children, recorded and classified all errors and self-corrections from the time the children started reading books in the reading scheme until the end of the second school year. She found that a very high proportion of errors were substitutions, usually within the same class and, on most occasions, semantically appropriate. When self-corrections occurred they were nearly always the result of the child discovering a semantic anomaly as he read further in the text. These children were obviously using their knowledge of the language to make contextually-based predictions. Observations were also made of the children in the pre-reading stage, and records kept of the forms of behaviour they manifested in dealing with reading material.

Although based on children learning to read English, Clay's research findings cannot be generalised in any simple way to the situation in Britain, however. Her study was carried out in the context of relatively homogeneous pedagogical practice shortly after the introduction, in all schools, of a new reading scheme carefully prepared to maximise the correspondence between the written language of the text and the children's spoken language. Pre-reading activities were also closely specified and little variation between schools was reported

in this respect. In Britain, there is much greater variation in pedagogical practice; whilst nearly all teachers recognise the importance of, and provide opportunities for, the acquisition of all the skills contributory to fluent reading, they differ in the relative emphasis that they place on specific skills and on the order in which they introduce them (Bullock, 1975). Reading schemes and materials, which also vary from school to school, tend similarly to emphasize particular types of skill. Individual children, therefore, have quite different experiences in the early stages of learning to read, some of which will be more conducive to success than others.

Once the multiple determination of success in learning to read has been recognised, together with the heterogeneity of British pedagogical practice, it becomes clear that there is a need in this country for investigations that attempt to study the learning experiences of individual children as they occur naturally, in a variety of schools. This, then, is what the "Children Learning to Read" Project is attempting to do, by exploring in detail the interaction between oral language ability, relevant pre-school experience and initial motivation with respect to reading, range and type of texts and instructional materials, and relative emphasis and timing in the strategies employed by the teachers concerned in the initial stages of reading instruction. The sample of 20 children being studied is a sub-sample of the children whose language development is already being investigated in the Bristol Language Development study*. Although relatively small in number, this sub-sample bears a known relationship to the larger sample from which it was drawn, which was itself selected to give equal representation to both sexes, four classes of family background and all four seasons of birth in the pre-school population of the appropriate ages. Because of the geographical distribution of the children's homes throughout the city, the study also involves a wide and representative

* A detailed account of this research project can be found in Project Reports, Journal of Child Language, 1, 1, pp. 158-162 1974. See also paper by Wells for this Symposium.

sample of schools and teachers. The children concerned entered Infant School either in April or September 1975, and their progress will be monitored until July 1977.

A variety of research techniques is being employed, including interviews with the parents, and the head and class teachers; analysis of the children's pre-school oral language development; assessments of readiness for school and of oral comprehension, using standardised instruments: the administration of a number of tests to yield profiles of reading ability at ages 6, 7 and 9 years; and regular classroom observations of each child's activities, particularly, those which we consider are relevant to the acquisition of literacy. The remainder of this paper will be devoted to a discussion of this latter technique.

There are numerous ways of recording classroom behaviour (cf. Channan and Delamont, 1975, for a review of many of these); in this study, given the orientation already described, it is the individual child that provides the focus of attention, and the observations take the form of making a running record of the sample child's activities during a complete morning once every month over a two-year period. In addition, during the morning the observer also observes and records on tape the child reading aloud to her. (The decision to record only the morning's activities was based on experience, supported by Southgate and Lewis's (1973) finding that afternoon observations in Infant School classrooms yield very little additional information with respect to reading and writing). The record is designed to yield two types of information: firstly an account of the different activities engaged in and the amount of time spent on each; and secondly a detailed description of significant aspects of these activities.

Clearly it is not possible to write down every detail of the child's total classroom experience during the three-hour period; a coding is therefore applied to the continuous stream of behaviour as it is being observed. Two dimensions,

State and Description, are coded with respect to each activity, as the record is being made. Distinctions of State are based on the size of the working group, the extremes being the child working alone or with the whole class. Distinctions of Description are based mainly on recognised curricular activities which are common to Infant School classrooms. Since the child's experiences of reading and writing are what we are most concerned to record, more distinctions are made with respect to these curricular activities, with less detail being coded during P.E. or Art and Craft work, for instance. The record also includes the time (to the nearest quarter of a minute) at which there is a change of either State or Acitivity Description.

Simultaneously with the coding, a prose record is written, which gives as much detail of the child's behaviour and its context as possible, and also of the teacher's, where this is relevant. This prose record serves two purposes: firstly, it allows the observer to reconsider the codings after the observation is over and, through comparison with other observations and discussion, to ensure consistency over the whole period of data-collection. Sometimes, also, it is necessary to make retrospective alterations, as what starts as one activity, in fact, turns out to be another as time progresses. For example, a child may be instructed to continue with his number work, but as he returns to his table to do so, he sees his friend in the book corner and goes over to join him in looking at, and talking about, the books, never in fact finishing his number work at all. Secondly, the prose record provides data for the individual case studies, which are an intended outcome of the study; indications, for example, of the child's ability to concentrate on his own work whilst surrounded by other children, whether or not he appears to have particular friends, or whether he interacts with other children at all.

Particular attention is paid to any interactions with the teacher and, since the amount of individual attention the child receives from her seems likely to be an important factor to consider, the observer times these

occurrences in seconds, noting this information in a separate column on the observation sheet. In addition, prose notes are made of what happens during the interaction.

There appear to be three main reasons for the teacher to talk to a child: firstly, to organise and direct his activities; secondly, to sustain a social relationship, with little or no reference to the task in hand; and thirdly, to give individual instruction as she prepares a child for a task or goes over the activity with him, either during its progress or when it has been completed. This latter form of teacher-child interaction is coded on the observation sheets with subscripts: $_p$ for preparation, and $_f$ for feed-back or recapitulation. The reason for this detail of coding is that, in the early observations, a marked difference was observed between those teachers who offer praise and encouragement for work completed, and those who take opportunities to add to this positive reinforcement by going over the children's work with them, discussing it in detail. Busy teachers may, without realising it, find themselves dealing only with the products of children's activities, saying, for example, "Very good, John. Now go and put your book away and drink your milk". We hypothesized, however, that those teachers who attend to the processes that children go through in the production of the finished artefact, whether it be a line or page of writing, a sum, or a collage picture, will ultimately be doing more for their children's mastery of the necessary skills.

Inevitably, there are some difficult decisions to be made in categorising particular stretches of activity. For instance, a child may be working at a table shared by other children, but engaged on an activity which, by its very nature, is solitary; should this be coded as a group activity? When the teacher addresses a question or remark to the individual child being observed in a period of class discussion, should the coding change, to indicate a one-to-one interaction? Problems like these are resolved by referring to the basic

principle: code from the child's point of view. In the latter case, for example, we would argue that, although participating as a member of the whole class for most of the time, when the child is addressed personally by the teacher, a different degree of participation is called for, which is most adequately coded as one-to-one interaction with the teacher.

To illustrate the precise form which the record of an observation takes, a portion of the second observation of one of the children, Susan, is presented in Appendix I.

In order to allow time spent on equivalent activities to be compared across children and across occasions for the same child, it is necessary to abstract the relevant information from the observation records and present it in a more accessible form. A standard pro-forma for each observation has been designed for this purpose, and a completed example is presented in Appendix II. The activity boundaries between which time is calculated to arrive at the figures for entry on this form are marked by arrows (→) on the original observation sheets, as will be seen in the example in Appendix I.

At this second level of analysis, the main concern is with those activities which are hypothesized to be relevant to learning to read and write. For this reason the pro-forma contains a large number of tally-boxes which discriminate between the various activities associated with reading and writing that we have observed, whilst two boxes only, 'A' and 'Other', are used to tally other activities with which we are less concerned; number work, craft, painting and play with construction toys, for example, all being entered under 'A', whilst non-curricular activities such as drinking milk, going to the lavatory, etc., are entered under 'Other'.

The time intervals between activity boundaries are times ostensibly devoted to the activities coded, but any casual observer to a classroom will have noticed that most children do not work continuously at a task without

interruption. For example, a child who is supposedly getting on with some writing may in fact spend most of his time chatting with friends, gazing out of the window, or waiting in a queue for teacher's attention, so that the time actually spent writing may amount to a very small part of the time allotted to this activity. Some children, on the other hand, appear to retain their concentration whilst others all around them may be chatting or even fighting, and during the same space of time may well spend a sizeable proportion actually writing. Such differences must obviously be taken into account when comparisons are made of the distribution of time spent on different activites. A distinction has, therefore, been made between ostensible time and actual time, and these two figures are noted in the tally box, together with the time spent on each extraneous activity. Also noted separately within the appropriate tally-box is the total time spent interacting with the teacher.

A second reason for this reduction of the data to a single pro-forma sheet is the 'nesting' of one activity within another. For example, during a session on number work, some time may be spent in reading arithmetical problems prior to carrying out the calculations. Since we are particularly concerned with all activities connected with reading and writing, we want to include this time in the total time devoted to reading, whilst at the same time showing that it takes place in the context of a different activity. In completing the pro-forma, therefore, the total time for the number work would be entered in the box headed 'A', and within the same box an entry made, with the appropriate subscript, for the amount of time actually spent in reading. In this way, it is possible to identify all time spent on reading and writing activities, whilst at the same time preserving the information that some of this reading and writing takes place within the context of other activities.

To illustrate the way in which information about time spent on activities is entered on the pro-forma, the period of time devoted to Copy-Writing in

Susan's observation record (Appendix I) will be taken as an example. It occurs within the outlined section of the tally-box headed C/W (Appendix II). A total time of 8½ minutes was involved, and during this time, Susan spent 1/4 minute moving to her desk (M), 1 minute watching other children (N), 1/4 minute moving to join the queue (M), in which she spent 1 1/4 minutes (Q). These are all considered extraneous activities, together taking up 2 3/4 minutes. When this figure is subtracted from the total ostensible time,5 3/4 minutes remain, which were actually spent on the task. Within this time, 1 minute 8 seconds were spent with the teacher who went over Susan's work with her (Tf). This is the third instance of Copy-Writing during the morning. All three together ostensibly occupied 33 minutes. When time for extraneous activities (8 3/4 mins.) has been subtracted, the total actual time spent on this activity amounts to 24 1/4 minutes; of this time, 8 minutes 7 seconds were spent with the teacher, 5 minutes being prepared for the task, and 3 minutes 7 seconds recapitulating what she has done.

The final result of a morning's observation consists, therefore, of the two levels of information exemplified in the two appendices. By comparing the prose records and the fully coded time-distribution records of different children at the same stage of schooling, it will be possible to get a detailed picture of the similarities and differences between them in the ways in which their mornings are spent, and of the relative emphases given to different types of activity by different teachers.

Already, sharp differences have begun to emerge in teacher style, some teachers almost always working with the whole class, whilst others devote their time almost exclusively to individual children. For example, Susan's teacher gives a lot of time to individual work with children and to language work with the whole class, whilst George's teacher spends most of her time organising activities and setting the children to their work,with very little time spent interacting with individual children. Other differences can also be seen in the approaches to the early stages of reading and the diversity and range of activi-

ties offered to the children. It will be interesting to see how closely these data from the observations conform to the teachers' own views of what they do, as reported in the questionnaire/interview schedule.

Similar comparisons will also be made between the longitudinal observations of the same children. From these we hope it will be possible to obtain an index of the way in which the distribution in terms of time and the variety of activities changes with the children's age and developing skills.

A further outcome of these mornings observations is that, captured in the prose records, we obtain an idea of the uniqueness of each child's classroom experience. The importance of this is the detail it provides to aid in the interpretation of the relationships that emerge between the various factors being considered. Learning is not a continuous process, and it is different for every child: progress is uneven, with particular events and experiences providing both points of departure for periods of rapid progress and stumbling blocks which may take some time to overcome.

The following are some of the points of detail that we have noted so far, that we think may be of significance. Paul, for example, has been very slow in starting to read. On one of the first observations, when he had returned to his table to do his copy-writing under the sentence written by the teacher, he was noted to begin his copying at the bottom right-hand corner of the page, starting the majority of the words and letters from the right - perhaps because he had been standing facing the teacher when she wrote the sentence for him. When he took his completed work to the teacher, she praised him for his good work, having no idea about the incorrect processes he had employed in producing it. It seems reasonable to suppose that such an experience must delay mastery of the conventional left-to-right movement that is required in writing. In a similar situation, Mary ~~Wendy~~ was observed to pick out and copy all instances of the letter S, also without this being picked up for instructional discussion.

Wendy, on the other hand, is one of the better readers. After about six months in school, she was observed to have developed for herself the helpful strategy of taking her writing 'on the run'. Whenever she stopped writing to talk to her friend - which happened after almost every word - she forgot where she had got to in composing her sentence. Each time this occurred, she went back to the beginning of her sentence, and read and matched each word until she reached the point where she had broken off, and in this way regained her impetus to continue with her writing. This strategy is in marked contrast to Susan's (cf. Appendix I), which is much less successful.

It remains true, however, that observations alone cannot yield evidence that is clear and unequivocal about the learner's processes, for it is not possible simply by watching to be certain about how the child perceives and interprets the situations as they arise, but to intervene to question him at the time would interrupt the spontaneous flow of his activities. Although one must have some reservations about the validity of the explanations that children offer for their behaviour, we have attempted to probe into the children's understanding of what they are doing by asking questions about their reading and writing strategies in the period each morning when they read aloud to the observer and discuss the drawings and writing in their workbooks. Some of the results have been amusing as well as informative. On one or two occasions, the information has even been volunteered spontaneously, as in the case of James, who broke off his reading aloud, after a pause preceding his correct reading of the word 'know', to say:

> "I keep getting it wrong .... because it's got a 'k' on this end and without the 'k' it says 'now', and without that and that (pointing to 'k' and 'w') it says 'no'... It's difficult!"

The observation of spontaneous behaviour, therefore, needs to be supported by other methods of data collection, in order to obtain complementary viewpoints and to test the hypotheses to which it gives rise. Nevertheless, as we hope we

have shown, classroom observation, if carried out systematically and methodically has the unique advantage of providing information about children's learning processes and the contexts in which they take place that is available in no other way. Not least of its merits is that it allows one to construct a picture of what the teacher, if only she had the time, would wish to notice and respond to, in her methods of organisation and interaction with the children in her class. The case-studies that we are building up should, therefore, provide valuable source material for teachers on the sorts of events and experiences that have an influence on the progress of a wide variety of individual children.

In summary, therefore, if one accepts the general assumption upon which this study is based, then learning to read like learning anything at all must be an individual experience to which many factors contribute: previous experience, pre-requisite skills, and the sequencing and structure of the opportunities provided. It is surprising that so little attention has been given to observing and comparing the experience of individual children, although a beginning has been made on the observational study of classroom interaction in general, for example Barnes et al (1971) and papers in Channan and Delamont (op. cit.), but in most of these studies, the point of view adopted has been that of the teacher. However, what the teacher intends and even executes may remain unrelated to what an individual member of the class ever learns. Only by detailed observation of the daily classroom routine, as it is experienced by the child, shall we achieve a fuller understanding of the factors which contribute to the success or failure of individual children.

Name Susan — School — Observation No. 2 — Date 3.11.75 — Day Monday — Sheet No. 11

APPENDIX I

	Time a.m.	Secs. with T.	Stage	Description	Child (Age 5.y .1m)	Teacher
→ R	11.04		A	→	Susan has finished milk and biscuits	Tc come and read
	11.04 1/4		A	M	Goes and gets book (Happy Trio Reading Scheme 'We work and play')	
	11.04 ¾		A + Tf	R	Susan reads very quietly; doesn't point with her finger.	
					Often seems not to know what is going on in pictures. Giggles instead of answering T.	Teacher asks Susan about what she is reading, and about the picture.
					Susan keeps on reading despite teacher helping other children. Reads word for word correctly.	Teacher keeping rest of class in control whilst Susan is reading.
	11.09				Susan very keen to keep going. By p.28 beginning to hesitate a bit, but still reads word by word correctly.	Teacher asks questions about the pictures, soon goes back to other children.
					p.31 stuck on 'Big'. Gets 'big' later in story and gets it without further prompt.	Teacher tells her word. Talks about picture eg who's big? who's little?
		9'55"			Stuck on 'baby'	Teacher tells her Teacher asks her no. of page she's got to.
→ C/W	11.14 ¾		A	M	Returns to desk.	
	11.14		A	C/W	Looks at writing and is trying to find where she is up to. Asks someone else to tell her but child does not hear her (Asked her 'What does it say'). Tries to work it out from 1st letter and word shape. Asks another child why she has a word card.	
	11.18		A	N	Just sits watching other children play with flashcards.	

Name Susan School - Observation No. 2 Date 3.11.75 Day Monday Sheet No. 12

	Time a.m.	Secs. with T.	State	Description	Child (Age .5y .1m)	Teacher
	11.19		A	C/W	Comes back to trying to find where she is up to.	
					Starts to copy but realizes that it is wrong. Then she starts to copy bottom line,	
					although she has not finished the previous line.	
	11.20 ½		A	M	To teacher's desk to join Q.	
	11.20 ¾		A	Q(4)		
	11.22	1'8"	A + Tf	C/W	Shows teacher her work.	Teacher goes over work. Tries to read it. Tells Susan not to squash writing up. Showed her where word was left out, wrote it in for her.
			A	----		To colour in a bit more of her drawing.
D(W)	11.23 1/4		A	M		
	11.23 ½		A	D(W)	Finishes drawing	
B	11.24 1/4		A	M	To desk to put things away.	
	11.24 ½		A	B	Settles in book corner looking at books.	

APPENDIX II

Completed pro-forma for one observation.

(Data presented in Appendix I appears in boxes)

Brief Outline of Codings

State A alone

Gp group

Cl whole class

Sch with whole school (e.g. for Service)

A + T alone with teacher etc.

Cl + T

Description

L Language activities - discussions

B Book activities - (other than child reading) browsing, story reading

R Reading text

R.G Reading Game - designed to develop child's vocabulary of sight words

R.A Reading Activity - designed to increase the child's awareness of the structure of written language.

D (W) Drawing as a later stimulus to writing

Tr Tracing over Teacher's writing

C Copying under Teacher's writing

C/W Copying from a sentence book

W Writing without a copy

A Other educationally relevant activities.

Oth. Socially (as opposed to educationally) relevant activities.

→ Directed to do something which involves a physical movement

M Moving

N Apparently doing nothing

Q Joining queue at teacher's desk

T Talk, non-specific to activity.

NAM Susan OBSERVATION NO. 2 DAY Mon DATE 3.11.75

Descri →	L	R	R	RG	RA	A	Total with T (p) (f)	TOTALS
A	22¼'	6½'	33¾'			65		219
		M½' 7'	M½ + Tf 9'55" 10¾' → ¼'				+Tf 9'55" → 15"	
			M¼ + Obs. 25½ 23¾'					
		(½') 7'	(¾') 34½'					41½'
Gp								
Cl	+T 1'40" 8¾'					6' 4' 5½ 43'	3'6"	
	+T 1'26" 13½							
	22¼'					55		37¼'
Descri →	D (W) 7½'	Tr	C	C/W 24½'	W ¾'	Oth. 4¾'		
A	M¼' 7'			M½ + Tf 1'1" 7½ Q½ + Tf 52'	M3¼' 5½ N4'	¼' 4½'	+Tf 3'7" +Tp 5'	
	M1¼' 1			M1 + Tp 5' 15' (x2¼				
				M½' +Tf 1'8" 3½ N1' Q1¼'				
	(½') 8			(8¾') 35'	(4¾') 5½'	4¾'		51¼

+T 3'6"
+Tp 5'
+Tf 13'2"
→ 15'

Total time with T. _____ Total time accounted for 180'

21

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